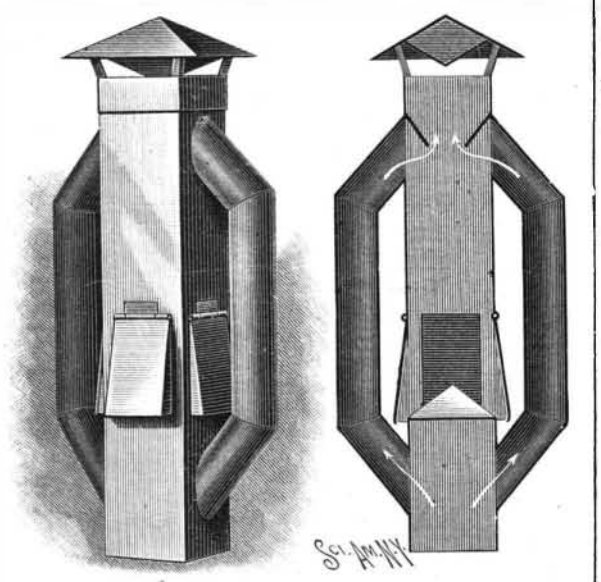
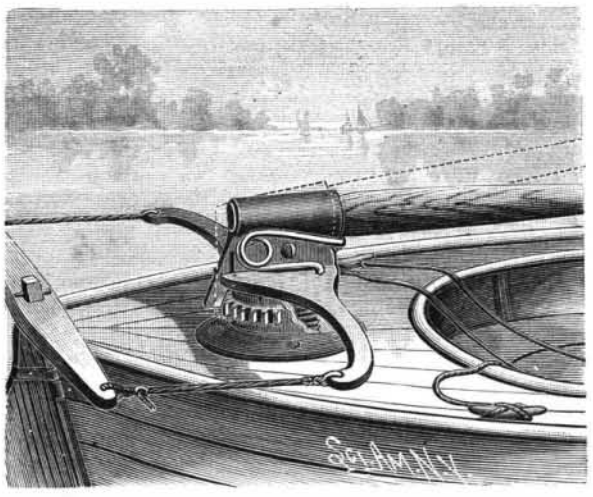
AN IMPROVED CHIMNEY COWL AND VENTILATOR.

A cowl or ventilator constructed to fit upon the top of a chimney or ventilating flue, and prevent down currents from entering the pipes, is illustrated herewith, and has been patented by Mr. John D. Cashill, of Princeton, N. J. Its lower section is connected to the upper section by side pipes or flues outside of the



CASHILL'S CHIMNEY COWL AND VENTILATOR.

main body, providing a free passage for smoke and air from the bottom section to the top of the cowl, as shown by the arrows. The lower section is closed at the top, above the lower openings into the side pipes, and on each of the sides of the upper section is a hinged door opening to the outside air. Above the upper connections of the side pipes with the cowl, and partially closing the pipes, are deflecting plates, which serve to direct currents of air which may enter at the top past the pipe openings, and centrally down to an outlet by way of one of the hinged doors at the sides. There is an outwardly deflecting plate opposite each hinged door, the door to the windward always being closed by the outside air pressure on that side when the wind is blowing, while the opposite one opens freely, to allow



RUSHTON'S LOCKING STEERING GEAR.

of the escape of any air that may be drawn in at the top, and prevent down draught.

AN IMPROVED SHINGLING GAUGE.

A gauge which is designed to enable a shingler to lay a large number of shingles without changing his position on the roof is illustrated herewith, and has been patented by Mr. McGuire Slane, of La Cinta, Territory of New Mexico. The body of the gauge is an angled bar having rearwardly extending arms with a series of apertures, through which are passed screws to secure another bar at the desired distance from the first bar, such distance representing the space between the lower ends of the successive rows of shingles. At the junction of the arms with the main bar are ears between

SLANE'S SHINGLING GAUGE.

which are pivoted levers, as shown in the small figure, the inner end of each lever being forked to receive a pin, A, these pins to be driven in to fix the gauge in position, while the outer end of the lever, B, is made in a form suitable to receive the blow of a hammer, whereby the pin, A, will be withdrawn when the position of the gauge is to be changed. The distance apart of the several rows of shingles is readily regulated by means of the different apertures in the arms, through which screws are passed to fix the position of the rear bar of the gauge, and two taps of a hammer are all that is necessary to remove the gauge and fix it in position again for laying a new row of shingles.

The Electric Light in Medical Investigations.

The electric light is getting to play an important part in medical investigations. With a little "pea light" attached to the end of a slender rod, Sir Morell Mackenzie examines the throat of the German Emperor. The little battery that supplies the electricity hangs around the surgeon's neck. These little electric lights are becoming daily of more practical use. By their aid the surgeon pokes and peeks into places he otherwise would have to manipulate in "by the feel," and achieves results heretofore impossible.

A DEVICE FOR LOCKING STEERING GEAR.

An invention providing steering gear for canoes and light sailing boats, which may be locked in any desired position, is illustrated herewith, and has been patented by Mr. John H. Rushton, of Canton, N. Y. A socket adapted to be attached to the deck of the boat is provided on its periphery with a series of teeth, the interior of the socket being screw-threaded, and fitted with a head having a threaded portion. The head carries horizontal arms with eyes at their extremities, which are connected by cords with levers attached to the rudder post. The head also has vertical ears between which is pivoted the flange of a tapered socket to receive the end of the tiller, there being integral with the flange a downwardly projecting arm adapted to engage the teeth on the periphery of the socket fixed to the deck. A double spring is arranged to bear on a shoulder on the lower part of the tiller socket in such way as to raise the tiller into the position shown in dotted lines whenever it is released by the steersman, the downward projection of the flange at the rear then engaging the teeth on the periphery of the socket fixed to the deck, and locking the tiller and rudder in position, the tiller being designed to move freely in either direction when held down to the position shown in full lines in the illustration.

BINNS' PATENT BANDING SPINDLES.

The illustration shows a method for banding spindles, invented and recently patented by Mr. Leedham Binns, of the Binns' Patent Band Co., 5th and Berks Sts., Philadelphia. The drawing sufficiently indicates the nature and operation of the invention. The claim made for it is as follows:

"It takes 50 per cent less power to drive the spindles. This means a large item in coal, wear and tear on boilers, engines, shafting, belting and connections."

"A firm with 80,000 spindles banded on this plan will save about 300 horse power; allowing 3 pounds of coal per horse power per hour, would save over 1,200 tons of coal per annum, more or less, according to speed of spindles. It is impossible for a band to slip on the cylinder.

"There is double the amount of band contact given to each spindle. It requires less than half weight of banding to drive the spindles.

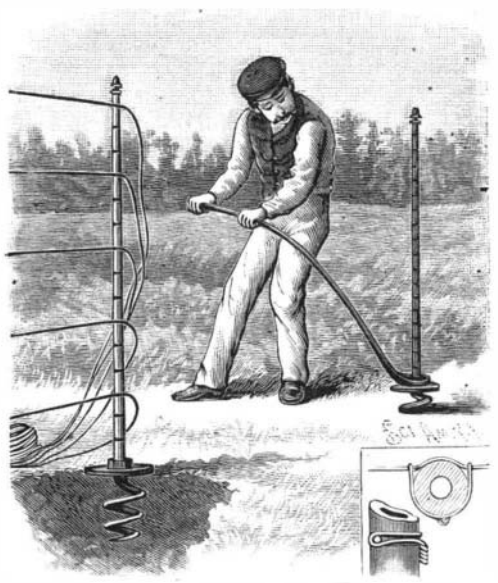
"It drives the spindles more perfectly and up to speed. It spins and twists the yarn more evenly. It requires less oil for lubrication, less wear and tear on the spindles and connections, and the highest rate of speed possible can be obtained."

Test spindles banded on this plan are running at 27,000 revolutions per minute, spinning cotton at 17,000 per minute. The royalty asked is 5 cents per spindle, for full term of patent, or 3 cents per spindle per annum, using without contract.

For further information, apply to the Binns' Patent Band Company, head office, Fifth and Berks Streets, Philadelphia, Pa., U. S. A.—*Textile Record.*

AN IMPROVED FENCE AND FENCE POST.

An invention relating to wire fences, and more particularly to an improved form of post therefor, has been patented by Mr. George H. Guile, of Watertown, N. Y., and is illustrated herewith, the small figure showing the manner of attaching the fence wire to the post. The post is preferably made hollow, and tapering upwardly, its upper open end being closed by a knob or head, while at suitable intervals from top to bottom are annular grooves around its periphery, suitable for the running wires to lie therein against the post. The bottom of the post has a screw-threaded portion by which it screws into the socket of an enlarged upper portion or head of an involute helical or corkscrew-shaped point, this head having polygonal sides for the engagement of a wrench to force the screw into the ground, and the screw diminishing in size toward its point, so that it will not loosen the surrounding earth, but firmly and closely embed itself therein. The running wires are held or tied to the post by strips of wire or other flexible material, of band or loop form, the grooves maintaining the wire, in looped form, from any up and down slide. It is obvious that such a fence can be rapidly and easily set up, and, should the posi-

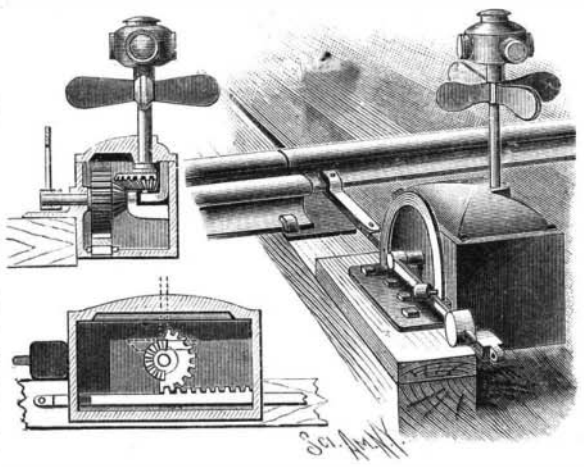


GUILE'S METALLIC FENCE AND FENCE POST.

tion of the posts be affected by frost, they can be readily readjusted without disengaging the wires.

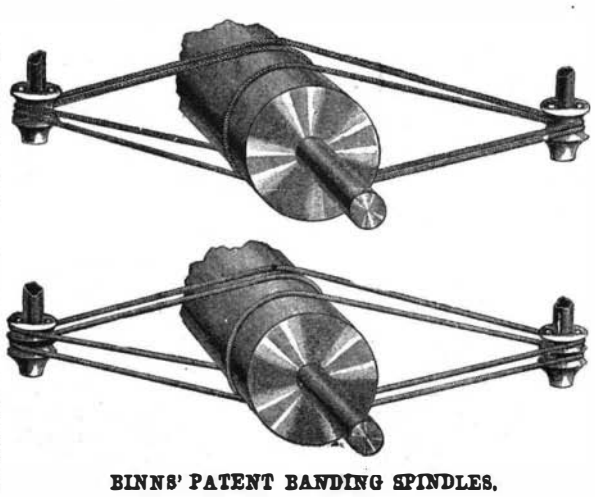
IMPROVED RAILWAY SWITCH STAND AND SIGNAL.

A simple and positive device for operating a signal automatically as the switch is moved is illustrated herewith, and has been patented by Mr. Nathaniel W. Boyd, of Steelton, Pa. The apparatus is mounted on a single tie or sleeper to provide against uneven settling, and may be set up on either side of the track, or with either side presented to the track, all the principal operative portions, as shown in the sectional views, being inclosed in a tight case, to exclude dirt, snow, ice, and other obstructions. In the bottom of the casing are spaced ribs and a friction roller, upon which slides freely a racked bar, which projects through slots and



BOYD'S RAILWAY SWITCH STAND AND SIGNAL.

is connected with the switch bar. Through an aperture in the side of the casing projects a horizontal rock shaft having attached to its outer end a weighted hand lever, sliding on and guided by a segmental bar, near the extremities of which are apertures to receive a padlock, by which the lever may be locked to prevent its being raised or the operative parts of the device manipulated. Upon the inner end of the shaft is a segmental spur gear, meshing with the teeth of the racked bar, and a segmental bevel pinion meshing with a bevel pinion on a vertical signal shaft provided with a four-bladed semaphore and a signal lamp, the colored sides of the lantern corresponding with the colored wings of the day signal. In operation, when the lever makes a one-half revolution, the signal shaft is given but a one-quarter turn.



BINNS' PATENT BANDING SPINDLES.